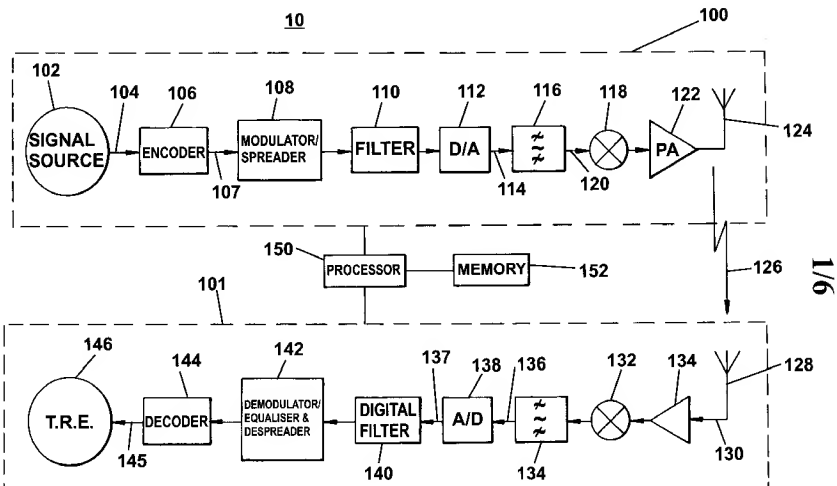

Fig. 1
(PRIOR ART)

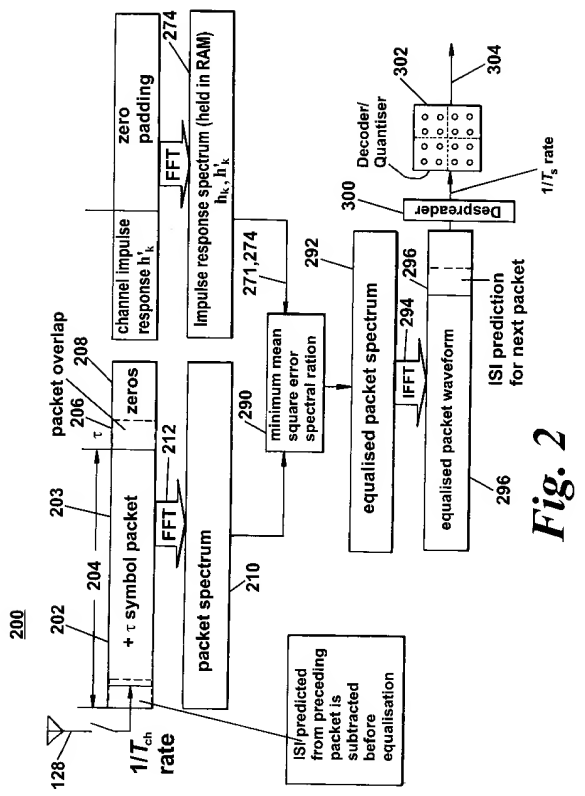
200
128
202
204
203
packet overlap
206
208
τ
+ τ symbol packet
zeros
1/T_ch rate
FFT
212
packet spectrum
210
290
minimum mean square error spectral ration
292
271,274
channel impulse response h'_k
zero padding
FFT
274
impulse response spectrum (held in RAM) h_k, h'_k
ISI predicted from preceding packet is subtracted before equalisation
equalised packet spectrum
IFFT
294
296
equalised packet waveform
ISI prediction for next packet
296
300
Despreader
Decoder/ Quantiser
302
304
1/T_s rate

Fig. 2

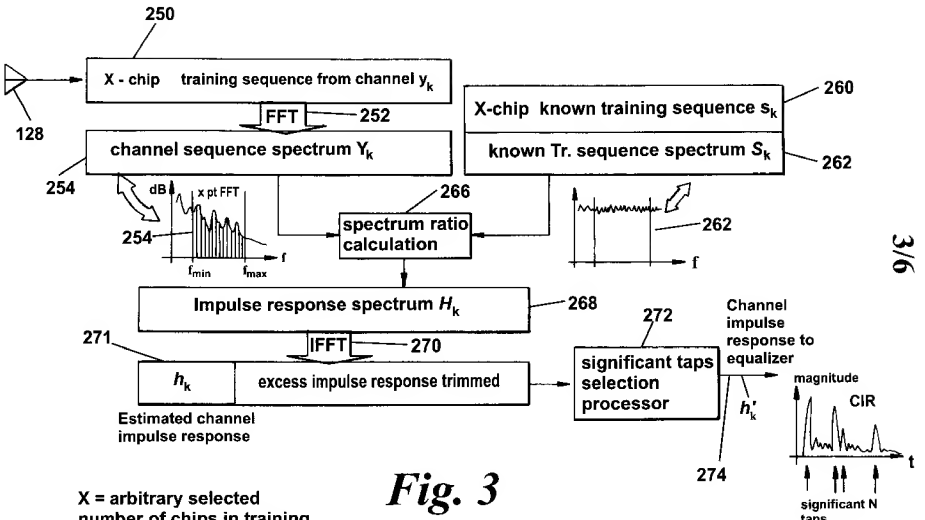

Fig. 3

X = arbitrary selected number of chips in training sequence set by system standard

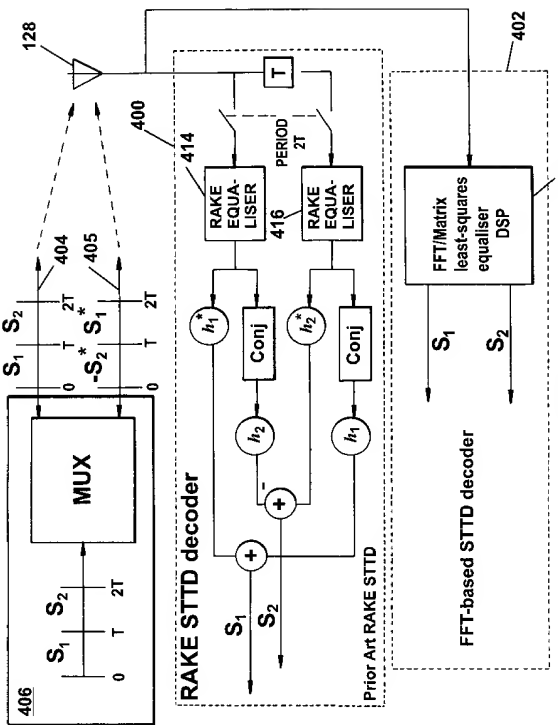
406
MUX
S1 S2
0 T 2T
128
400
404
405
S1 S2
-S2* S1*
2T
RAKE STTD decoder
Prior Art RAKE STTD
414
416
RAKE EQUA-LISER
PERIOD 2T
T
h1*
h2*
h2
h1
Conj
S1
S2
402
412
FFT/Matrix least-squares equaliser DSP
FFT-based STTD decoder

Fig. 4

$h_1^r(0) + 0$	$0 - h_2^r(0)$	$-h_1^i(0) + 0$	$0 - h_2^i(0)$	0	....
$h_1^r(1) + h_2^r(0)$	$h_1^r(0) - h_2^r(1)$	$-h_1^i(1) + h_2^i(0)$	$-h_1^i(0) - h_2^i(1)$	0	....
$h_1^i(0) + 0$	$0 - h_2^i(0)$	$h_1^r(0) - 0$	$0 + h_2^r(0)$	0	....
$h_1^i(1) + h_2^i(0)$	$h_1^i(0) - h_2^i(1)$	$h_1^r(1) - h_2^r(0)$	$h_1^r(0) + h_2^r(1)$	0	....
$h_1^r(2) + h_2^r(1)$	$h_1^r(1) - h_2^r(2)$	$-h_1^i(2) + h_2^i(1)$	$-h_1^i(1) - h_2^i(2)$	0	....
$h_1^r(3) + h_2^r(2)$	$h_1^r(2) - h_2^r(3)$	$-h_1^i(3) + h_2^i(2)$	$-h_1^i(2) - h_2^i(3)$	0	....
$h_1^i(2) + h_2^i(1)$	$h_1^i(1) - h_2^i(2)$	$h_1^r(2) - h_2^r(1)$	$h_1^r(1) + h_2^r(2)$	0	....
$h_1^i(3) + h_2^i(2)$	$h_1^i(2) - h_2^i(3)$	$h_1^r(3) - h_2^r(2)$	$h_1^r(2) + h_2^r(3)$	0	....
$h_1^r(4) + h_2^r(3)$	$h_1^r(3) - h_2^r(4)$	$-h_1^i(4) + h_2^i(3)$	$-h_1^i(3) - h_2^i(4)$	0	....
$h_1^r(5) + h_2^r(4)$	$h_1^r(4) - h_2^r(5)$	$-h_1^i(5) + h_2^i(4)$	$-h_1^i(4) - h_2^i(5)$	0	....
$h_1^i(4) + h_2^i(3)$	$h_1^i(3) - h_2^i(4)$	$h_1^r(4) - h_2^r(3)$	$h_1^r(3) + h_2^r(4)$	0	....
$h_1^i(5) + h_2^i(4)$	$h_1^i(4) - h_2^i(5)$	$h_1^r(5) - h_2^r(4)$	$h_1^r(4) + h_2^r(5)$	0	....
....	....	....	....	....	....

Layout of channel impulse responses in $\tilde{c}$

Fig. 5

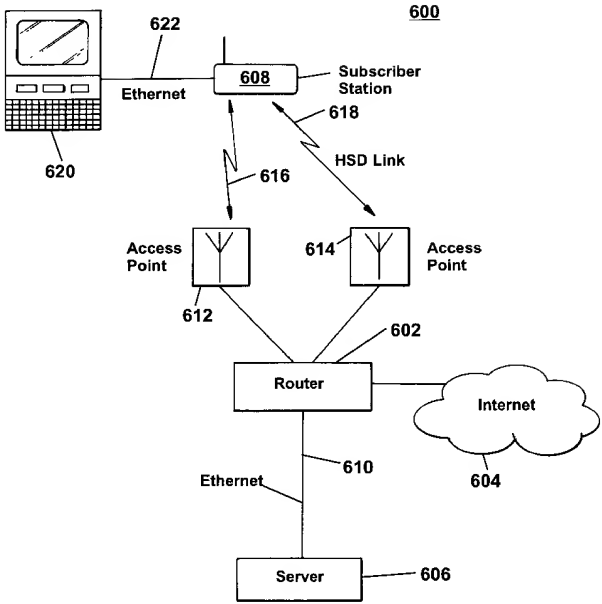
600
622
608
Subscriber Station
Ethernet
618
620
616
HSD Link
Access Point
614
Access Point
612
602
Router
Internet
610
Ethernet
604
Server
606

Fig. 6